



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER OF PATENTS AND TRADEMARKS  
Washington, D.C. 20231  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/009,142	11/08/2001	Rene Samson	TS0819 US	5558

7590

04/09/2003

Richard F Lemuth  
Shell Oil Company  
Intellectual Property  
PO Box 2463  
Houston, TX 77252-2463

EXAMINER

ARNOLD JR, JAMES

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 04/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/009,142

Applicant(s)

SAMSON, RENE

Examiner

James Arnold, Jr.

Art Unit

1764

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 08 November 2001.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-9 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-7 is/are rejected.
- 7) ☒ Claim(s) 8 and 9 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All   b) ☐ Some \*   c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Objections*

Claims 8 and 9 are objected to under 37 CFR 1.75(c) as being in improper form because a multiple dependent claim should refer to other claims in the alternative only. See MPEP § 608.01(n). Accordingly, the claims have not been further treated on the merits.

### *Claim Rejections - 35 USC § 102*

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 6 is rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bartholic (USPN 5,584,986).

The Bartholic reference discloses a fluidized catalytic cracking unit comprising a reactor riser having means to receive a hydrocarbon feedstock and regenerated catalyst and optionally a lift gas; a conduit means to send the reactor effluent to a separation means; means to send the reactor effluent to a separation means to a dense phase stripping zone; means to send a hydrocarbon product as separated from the reactor effluent in separation means to a downstream unit operation; supply means to feed a stripping medium to the dense phase stripping zone; means to supply the gaseous effluent of the dense phase stripping zone to separation means in order to separate any catalyst particles present in the this gaseous effluent; conduit means to send spent catalyst from dense phase stripping zone to the elongated dilute phase stripping zone; conduit means to send spent catalyst from dense phase stripping zone to regeneration zone;

Art Unit: 1764

conduit means to send regenerated catalyst to dilute phase stripping zone, supply means to supply a stripping medium to dilute phase stripping zone, conduit means to send the effluent of dilute phase stripping zone to separation means, supply means to supply an oxygen containing gas to regeneration zone and conduit means for the combustion gases to leave the regenerator.

See Figure 1 and See Description of the Preferred Embodiments.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

Claims 1-5 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bartholic (USPN 5,584,986).

The Bartholic reference discloses separating the hydrocarbon product from the spent catalyst by means of one or more gas-solid separation steps. See Column 4, lines 55-60. The reference discloses stripping the spent catalyst in a dense phase fluidized stripping zone by

Art Unit: 1764

introducing a stripping medium in the lower portion of the stripping zone; introducing part of the spent catalyst to a regeneration zone wherein the coke is removed from the catalyst by means of combustion; introducing the remaining part of the spent catalyst and part of the hot regenerated catalyst into a lower portion of an elongated dilute phase stripping zone; and introducing a stream of a stripping medium into the lower portion of the dilute phase stripping zone to contact the resulting mixture of spent catalyst and regenerated catalyst therein. See Abstract and See Column 11, lines 1-45. The reference discloses passing a stream of the spent catalyst mixed with the hot regenerated catalyst and stripping medium upwardly in the dilute phase stripping zone under dilute phase stripping conditions to an upper portion thereof; and separating substantially all of the spent catalyst and regenerated catalyst from the effluent. See Column 12, lines 30-65 and Column 6, lines 5-10. The reference discloses separating the spent catalyst and regenerated catalyst from the effluent by use of gas-solid separation steps. See Column 6, lines 5-10.

The reference does not disclose introducing the separated catalyst [from the spent catalyst, regenerated catalyst, and effluent mix of step(g)] to the dense phase stripping zone. The reference does not disclose passing the remaining part of the hot regenerated catalyst to the reaction zone to be contacted with the hydrocarbon feedstock. The reference does not disclose a temperature in the dense phase stripping zone between about 500 C and about 600 C. The reference does not disclose a weight ratio of spent catalyst obtained in step (b) which is sent to step (c) and of spent catalyst obtained in step (b) which is used in step (d) between about 1:10 and about 10:1 nor does the reference disclose a weight ratio of spent catalyst and regenerated catalyst in step (d) of between about 1:10 and about 10:1. The reference does not disclose a unit

Art Unit: 1764

wherein additional supply means (16) for introducing a hydrocarbon feedstock are present in the lower portion of the elongated dilute phase stripping zone (B).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to introduce the separated catalyst [from the spent catalyst, regenerated catalyst, and effluent mix of step(g)] to the dense phase stripping zone because this allows for removal of hydrocarbons. It would have been obvious to one having ordinary skill in the art at the time the invention was made to pass the remaining part of the hot regenerated catalyst to the reaction zone to be contacted with the hydrocarbon feedstock because the regenerated catalyst is capable of being utilized as an effective FCC catalyst. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a temperature in the dense phase stripping zone between about 500 C and about 600 C because high temperatures are favorable for the stripping process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a weight ratio of spent catalyst obtained in step (b) which is sent to step (c) and of spent catalyst obtained in step (b) which is used in step (d) between about 1:10 and about 10:1 or a weight ratio of spent catalyst and regenerated catalyst in step (d) of between about 1:10 and about 10:1 because both the spent catalyst and regenerated catalyst are disclosed by the reference and it would be appropriate to utilize them in any ratio effective for the FCC process. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize a unit wherein additional supply means (16) for introducing a hydrocarbon feedstock are present in the lower portion of the elongated dilute phase stripping zone (B) because additional supply means would allow for more efficient delivery of the hydrocarbon feedstock.

Art Unit: 1764

***Conclusion***

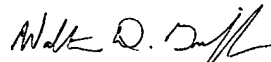
The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Hettinger (USPN 4,869,879). The Hettinger reference discloses a catalyst stripping apparatus.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James Arnold, Jr. whose telephone number is 703-305-5308. The examiner can normally be reached on Monday-Thursday 8:30 AM-6:00 PM; Fridays from 8:30 AM-5:00 PM with alternate Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0651.

ja  
April 7, 2003

  
**Walter D. Griffin**  
**Primary Examiner**